

# An Investigation of the Unemployment of Higher Educated Manpower in Iran

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## **Abstract**

The importance and value of educated manpower (human capital) has become an important issue in economic development of countries throughout the world. In fact, effective use of physical capital itself is dependent upon human capital. Through a survey study, the present paper aimed at investigating the causes of unemployment of higher educated manpower (HEM) in Iran. The results of the study indicated that administrative, educational, economical and socio-cultural factors respectively have an influential effect on unemployment of HEM. The study has offered some implications to policy makers.

**Keywords:** Higher educated manpower, Human capital, Economic growth, Economic development

## **1. Introduction**

One of the main determinants of economic growth around the world since last five decades has been education. Education plays a key role in absorbing modern technology in developing countries. Education and the expansion of knowledge not only provide the people with different human choices, but also create better living conditions through making accessible different employment opportunities. In fact education is of great importance for creating a more productive labor force which is called educated manpower or human capital. Basically, effective use of physical capital itself is dependent upon human capital.

The importance of human capital on economic growth has been widely studied in the literature. Adam Smith (1776) was the first classical economist to include human capital in his definition of capital. However, the concept of human capital was largely forgotten by economists until its re-birth in the early 1960s with the writings of Schultz (1961, 1962);

Becker (1962, 1964); and Mincer (1958, 1962, 1974). Even during the same period, the development of neoclassical (Solow-Swan) growth theory failed to provide a framework for incorporating human capital as an engine of growth. However, such a framework became available later with the works of Romer (1986) and Lucas (1988) and with the emergence of a new endogenous growth literature, which stimulated the interest of economists in the role of human capital as a determinant of economic growth. In some of these models, human capital induced economic growth by stimulating technological advancement or by enhancing labour productivity. Recent empirical studies of economic growth also suggest that human capital is an important factor in determining the economic growth of a country.

Several studies conducted by Harbinson, Denison, Kuznets, Kendrick, Schultz, Becker and Bowman reveal that one of the important factors responsible for the rapid economic growth of the United States of America has been the investment on education, health, research and training. They asserted that a dollar invested on education has brought a greater increase in national income than a dollar spent on dams, roads, factories or other tangible capital goods. According to Soloman Fabricant, the increase in the total national product of the United States through increase in physical capital between 1889 -1957 equalled the increase through higher labour productivity. In Galbraith's words, we now get the larger part of our industrial growth not from more capital investment but from investment in men and improvements brought about by improved men. Marshal regards education as a national investment and the most valuable of all capital is that invested in human beings. Denison (1962) calculated that almost 23 per cent of the rate of growth of output in the United States during the period from 1930 to 1960 was due to the increased education of the labour force. When this study was replicated for the United States and Western Europe during the period from 1950 to 1962, Denison (1967) concluded that the diffusion of education accounted for as much as 15 per cent of growth in output in the United States, two per cent in the Federal Republic of Germany, 12 per cent in the United Kingdom, 14 per cent in Belgium, four per cent in Denmark, six per cent in France, five per cent in the Netherlands, seven per cent in Norway, and seven per cent in Italy.

Some other empirical studies also find human capital to be positively related to the growth rate of GDP. A few other studies, however found the linkage to be insignificant. Positive effects have been reported in the studies conducted by Barro (1991), Mankiw, Romer and Weil (1992), Levine and Renelt (1992) and Temple (1999). Insignificant effects have been mentioned in studies by Benhabib and Spiegel (1994), Islam (1995), Caselli, Esquivel and Lefort (1996) and Pritchett (1999).

Benhabib and Spiegel (1994) used estimates of physical and human capital stocks to examine cross-country evidence to determine the role of human capital on the economic growth of the countries. Their findings shed some doubt on the traditional role given to human capital in the development process as a separate factor of production. In their first set of results, they found that human capital growth had an insignificant and usually negative effect in per capita income growth.

Temple (1999) showed that there is a weak correlation in the dataset, but it was typically hidden by unrepresentative observations. Several influential papers have indicated that the cross-country correlation between increases in educational attainment and output growth is weak. There is one simple reason that cross-country regressions have not detected an effect of human capital. The effect could be hidden by a small number of unrepresentative countries, perhaps ones in which human capital accumulation has had little or no effect.

It turns out that a subset of countries do indeed exert considerable influence on the overall results, and so hide the strong positive correlation that can be detected in the majority of the sample. In a sample of 64 countries, there is clear evidence that output growth is positively correlated with the change in educational attainment, even when one conditions on physical capital accumulation.

Overall, this finding reinforces the importance of points made earlier in the cross-country growth literature. Simple application of OLS is sometimes an inappropriate way to estimate cross-country growth regressions, and results should always be accompanied by a careful exploration of sample sensitivity, given the likelihood of substantial parameter heterogeneity. This note demonstrates the point using data and specifications from Benhabib and Spiegel (1994). As the results indicate, it may be dangerous to draw far-reaching generalisations from growth regressions without investigating the likely extent of parameter heterogeneity in some depth.

Some Iranian economist such as Naderi (2003), Komejani and Memarnejad (2004), Dejpasand (2005) and Sameei (2008) have also found positive relationship between human capital and economic growth in Iran.

## **2. A Historical review of the Process of the Higher Educated Manpower (HEM) Unemployment in Iran**

The process of creating job opportunities in Iran during 1966-1977 had a rising trend. It had an approximate 2.5 per cent increase and around 215,000 job opportunities were created annually. In those years, the approximate annual growth of the employment of the HEM and those with no higher education was equal to 13.1 and 2.3 per cent respectively. The employment rate for those two groups is approximately 19,000 and 196,000 annually. During this period the employment of the higher educated ones was increased rapidly due to the limited number of the graduated students.

During 1976-1988, the employment had a fluctuant trend due to some events in the country such as the Islamic Revolution, the strikes in 1977, the beginning of the imposed war between Iran and Iraq and the global fluctuation in oil price. Thus, employment had an approximate 0.6 per cent growth annually. During the years, there was an approximate 58000 new job opportunities. And the gross investment had an approximate nine per cent decrease while GDP had an approximate 1.9 per cent decrease annually. Thus, due to the decrease in investment and production, employment did not have a considerable growth and the mere increase was mostly related to the public service sector. In this period the application of the

HEM for the job was increased approximately 5.6 per cent in a year and the application of the ones with no higher education had an approximate 0.5 per cent increase annually.

The period, 1988-1996, coincided with the end of the imposed war and the beginning of the reconstruction. In this period the employment had an approximate 4.1 per cent increase annually. The application of the experts for the job had an approximate 13.3 per cent increases annually. This rate was similar to the period 1966- 1977.

During the years 1996-2006 the employment had an approximate 3.5 per cent growth annually and an approximate of 590,500 new job opportunities were created. In the same period the annual approximate growth of the employed ones with higher educated was nine per cent and around 1,913,000 job opportunities were created for the HEM.

In general during the years 1966-2006, the rate of the employed ones with higher educated from one per cent in 1966 was increased to 16.2 percent in 2006. Although this increase was desirable in the mentioned period, this change cannot be considered as a result of the changes in the structure of the job market because the number of the HEM in Iran were limited as a result the number of the employed ones with higher educated were few. Furthermore, considering the point that 80 per cent of the employed ones with higher education in 1996 were absorbed in the public sector (Table 1), one can argue that this considerable increase of HEM employment can be related to the increase in the rate of employment in the public sector. In fact the process of the growth of unemployment among the HEM started as a result of decreasing the rate of employment in the public sector from 1997. The rate of unemployment in 2006 was nearly increased four times more than the one in 1976 and reached to 16.2 per cent (Table 2).

Table 1. Distribution of employed HEM between public and private sectors

| Year  |        | Private | Public  | Unknown | Total   |
|-------|--------|---------|---------|---------|---------|
| 1986  | Number | 69360   | 406055  | 21872   | 497287  |
|       | %      | 13.95   | 81.65   | 4.4     | 100     |
| 1996  | Number | 219212  | 1131246 | 52159   | 1402617 |
|       | %      | 15.63   | 80.65   | 3.72    | 100     |
| 2006* | Number | 1097278 | 2163787 | 54927   | 3315992 |
|       | %      | 33.1    | 65.25   | 1.65    | 100     |

Source: Faliji, N. (2001)

The Result of the General Census of Population and Housing, 2006, Statistical

Center of Iran (SCI).

Table 2. Unemployment rate of manpower in Iran

| Year | Total Unemployment Rate | HEM Unemployment Rate |
|------|-------------------------|-----------------------|
| 1966 | 6.3%                    | 1%                    |
| 1976 | 10.2%                   | 4.2%                  |
| 1986 | 14.2%                   | 6.2%                  |
| 1996 | 9.1%                    | 9.1%                  |
| 2006 | 12.75%                  | 16.2%                 |

Source: Statistical Center of Iran (SCI).

On the other hand, the decline in the rate of employment among the illiterates is due to the decline in the rate of illiteracy from 71.32 per cent in 1966 to 15.39 per cent in 2006. In other words, this positive phenomenon in the job market should not be taken as a result of the changes in the structure of the job market during this period. However, this phenomenon is due to the changes in the structure of population in the light of literacy.

### **3. The Status of Unemployment of HEM in Iran**

The result of Table (2) indicates that the unemployment rate of the HEM in 1966 was considerably less than the unemployment rate of the whole work force in the same year. However, in 1997 the unemployment trend of the higher educated was intensified. In 2006 the unemployment rate of the HEM was increased compared to the unemployment rate of whole work force.

Studies on Iran's economy indicate that the lack of balance between the supply and demand for the expert manpower started in 1991. Sohrabi, (2001) in a study, has estimated the supply of the expert manpower from 1999 to 2011. The results of the study show that the case of unemployment for the HEM cannot be solved merely through the supply side in the job market. In another study, Khalesi (2001) has examined the effect of the lack of balance between the supply and demand for the expert manpower. The results indicated that the oversupply of the expert manpower compared to its demand in each period resulted in further inequality in the coming periods. In other words, based on the simulated model the increase in the number of the unemployed HEM, would necessarily increase the unemployment rate of the HEM in the coming years. According to Biyabani (2003) the change in unemployment rate of HEM in Iran from 4.2 per cent in 1996 to 11.2 per cent in 2001 can be attributed to the structural unemployment. He believes that the revision in the structure of the job market is essential to solve this problem.

The presented statistics and the results obtained from the studies show that there is not a clear prospect for the employment of the HEM. Therefore, the present paper investigates the causes of unemployment of HEM in Iran.

#### **4. Methodology**

##### *4.1. Instrument*

Based on the variables of the study, taken from literature review, a questionnaire was prepared and administered to the subjects. The questionnaire consisted of two parts namely:

- 1) Personal information (demographic data) including gender, marital status, age, etc.
- 2) Variables in four sections:
  - a) Economical factors include 14 questions.
  - b) Educational factors include 10 questions.
  - c) Socio-cultural factors include 10 questions.
  - d) Administrative factors include 17 questions.

Data were collected using a 5-point Likert scale, with categories ranging from “very low” (1) to “very high” (5). Then, for analysis purpose, we used a 3-point scale (low, medium, and high).

The questionnaire was validated using the content validity technique. A total of four experts in economics, education, sociology, and administration reviewed the questionnaire for appropriateness. The experts also examined whether each item was assigned to the appropriate scale. The questionnaire then was modified incorporating the experts’ comments. The parallel forms technique was used for the stability reliability analyses. A total of 40 participators participated in this reliability test. The parallel forms correlation coefficient was 0.916. In this way the questionnaire was valid and reliable for the study.

The questionnaire was then administered to a) the experts of management and programming organization of Islamic republic of Iran, b) the participants of the third seminar of employment and higher education in Tarbiyat e modarres university Tehran. Iran, and c) Iranian Masters and Ph.D. students in Pune University, Pune. India.

##### *4.2. Data Analysis*

Data were analyzed using Statistical Program for the Social Science (SPSS 13.0). Data were coded and entered into personal computer for analysis. Descriptive statistics was used for data checking and correction. Frequency distribution and measures of central tendency and

variances were assessed for the relevant continuous variables. Demographic variables were examined for relationship with values about study's independent variable (age group---) and dependents variable. Chi-square, parametric and non-parametric analysis were used in this study. Alpha was set at  $p \leq 0.05$  for all data analyses unless otherwise indicated.

## 5. Results

The results of the present study have been presented in two sections. In the first section, the effect of the main variables on the HEM unemployment have been determined and tabulated in terms of their priorities (Table 3). In the second section, the effect of economical, educational, socio-cultural and administrative factors on the HEM unemployment have been investigated.

Table 3. Priority of effective factors on unemployment of HEM

| Row | Factor  | Determined Priority |
|-----|---|---------------------|
| 1   | The lack of capital   | 44                  |
| 2   | The lack of security in investment  | 24                  |
| 3   | The high expenses to access the capital   | 40                  |
| 4   | The inefficiency of the financial markets   | 31                  |
| 5   | The lack of enjoying a section in a developed bank  | 40                  |
| 6   | The system of traditional production and the inefficiency   | 27                  |
| 7   | The prolific dealership and trading activity compared with the productive activities                            | 5                   |
| 8   | The governmental Monopolies and semi-monopolies   | 10                  |
| 9   | A few number of firm with medium scale in various economic sections   | 43                  |
| 10  | The absence of the firm based on the knowledge  | 19                  |
| 11  | The enormous income of oil  | 42                  |
| 12  | The limited amount of foreign direct investment   | 27                  |
| 13  | Iran's small portion of world trade   | 26                  |
| 14  | The absence of Iran's membership in the WTO   | 47                  |
| 15  | There is no proper link between university curriculum and occupational needs                                    | 8                   |
| 16  | The lack of proper linkage between the capacity of students' admission in various fields and occupational needs | 13                  |
| 17  | The absence of effective relationship between universities and different economic sections                      | 3                   |
| 18  | The lack of facilities in laboratories  | 33                  |

|    |  |           |
|----|--|-----------|
| 19 | The poor performance of practical and training courses   | 25        |
| 20 | Inappropriate evaluation of students' educational progress which leads them to memorize the learnt materials | 18        |
| 21 | The small portions of researching credits of the university budgets  | 39        |
| 22 | Possessing the mere knowledge of the university staff not their practical experience                         | 20        |
| 23 | Knowledge of English   | 46        |
| 24 | The low scientific level of the ones accepted in the universities  | <b>50</b> |
| 25 | Managers lack of belief in scientific and practical abilities of the higher graduated students               | 36        |
| 26 | absence of women's employment in various economic sections   |           |
| 27 | New appointments are not according to educational qualifications but with relations and friendship           | 15        |
| 28 | Tendency to university degrees   | 23        |
| 29 | Great expectations of the higher graduated students  | 49        |
| 30 | Lack of students acquaintance with the educational fields and occupational needs before entrance university  | 21        |
| 31 | Having two or more vocations by expert   | 37        |
| 32 | Re-entry of retireds people in work  | 48        |
| 33 | Not equitably dividing the facilities and occupational opportunities in different parts of the country       | 16        |
| 34 | The absence of entrepreneurship and entrepreneurs  | 2         |
| 35 | The interference of the government   | 32        |
| 36 | The government's competition with the private sections in the economic fields                                | 35        |
| 37 | The lack of supervision on the dealership and trading activities by the government                           | 14        |
| 38 | The lack of concentration on the scientific opinions in decision makings                                     | 6         |
| 39 | The absence of stability in the economic and trading schedules and regulations                               | 4         |
| 40 | Taking hasty decisions regarding employment  | 9         |
| 41 | A large number of decision making centers  | 12        |
| 42 | The assignment of the unqualified individuals at the head of executive management of organizations           | <b>1</b>  |
| 43 | Different regulations, sometimes contradictory, concerning the economic activities                           | 7         |
| 44 | Lack of guarantee in the right of ownership  | 38        |
| 45 | Lack of news transmission organizations  | 34        |
| 46 | The absence of compiled principles in meritocracy  | 17        |



|    |   |    |
|----|---|----|
| 47 | The inefficiency in the administrative system | 11 |
| 48 | The inefficiency in the judiciary system      | 30 |
| 49 | Taxation rules                                | 45 |
| 50 | Banking rules                                 | 29 |
| 51 | The employment rules                          | 22 |

As for the effect of economical, educational, socio-cultural and administrative factors on the HEM unemployment, the findings of the study have revealed that administrative, educational, economical and socio-cultural factors have been influential in HEM unemployment respectively. The results also suggest that the HEM unemployment in Iran has been the outcome of mismanagement and problems caused by educational system rather than mere economical factors. Thus, to solve the problem of HEM unemployment initially the managerial and educational system should be revised and improved so that we can increase HEM employment Rate through economical reforms.

## 6. Implications of the Study

Based on the findings, the present study has following implications for policy makers:

1. Establishment of information centers to present information on job market needs.
2. Improving the structure of administrative system to increase the efficiency of governmental organization specially those related to employment of HEM.
3. Training private sector managers to believe in scientific and practical abilities of the HEM.
4. Job appointments based on educational qualifications of staff.
5. Revising the present employment rules according to current needs.
6. Offering new courses such as Information Technology (IT) that might lead to the creation of new jobs.
7. Offering training courses for university staff to get new teaching methods directing to job market needs.
8. Expanding the scientific-practical training courses according to job market needs.
9. Revision and stabilization of the regulations concerning the economic activities.
10. Equal distribution of facilities for establishment of productive firms in all provinces.
11. Establishment of stability in the economic and trading schedules and regulations.
12. Re-evaluation of the curriculum offered at higher education centers.

## 7. Conclusion

This study has tried to identify the effect of Higher Educated Manpower (HEM) on economic growth in Iran and find the causes of non-utilization of HEM for economic development in Iran. Through a survey study, we identified the causes of unemployment of higher educated manpower (HEM) in Iran. The results of the study indicated that administrative, educational,

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economical and socio-cultural factors respectively have an influential effect on unemployment of HEM. Although the present study focused on human capital in the economic growth of the country, the importance of social capital cannot be ignored. Thus, other studies can focus on the role of social capital in economic development and also its interaction with human capital.

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**References**

- Amini, A. (1999). Estimate of the Demand Pattern of Labor Force in Iranian Economy and Forecast it for the Period 1997–1999. *Journal of Program and Budget*, Vol. 43 – 44, 3 – 28.
- Barro, R. J. (1961). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, Vol. 106(2), 407-443.
- Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, Vol. 70(5, part 2, Supplement), 9-49.
- Becker, G. S. (1964). *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*. New York: Columbia University Press.
- Benhabib, J. & Spiegel, M. M. (1994). The Role of Human Capital in Economic Development Evidence from Aggregate Cross-Country Data. *Journal of Monetary Economics*, Vol. 34, 143-173.
- Biyabani, J. (2003). The Study of Causes of Unemployment of University Graduates. *Research Journal of Emam Sadegh University*, Vol. 20.
- Caselli, F., Esquivel, G., & Lefort, F. (1996). Reopening the convergence debate: a new look at cross-country growth empirics. *Journal of Economic Growth*, Vol. 1, 363-389.
- Dejpasand, F. (2005). Effective Factors on Economic Growth of Iran. *Economical Research*, Vol. Fall 2005, 13-47.
- Denison, E. F. (1962). *The Source of Economic Growth in the United State and the Alternatives before US*. New York: Committee for Economic development.
- Denison, E. F. (1967). *Why Growth Rates Differ*. Washington: Brookings Institution.
- Faliji, N. (2001). The Estimation of Supply and Demand of the Professional Manpower and Study on Structure of Higher Education Job Market in Country Provinces. The Institute of Research and Programming in Higher Education, Research Paper 19.
- Sameei, G. (2008). *The Effect of Employment of Educated Manpower on Economic Growth of Iran*. Third Biannually Conference of employment and Higher Education System, Tarbiyat e Modarras University, Tehran, Iran.
- Hashemi, S. A. (2001). The Role of Status and Regulations on the Iranian Labor Market (with Attend to Higher Education Labor Market). The Institute of Research and Programming in Higher Education, Research Paper 27.
- Islam, N. (1995). Growth Empirics: A Panel Data Approach. *Quarterly Journal of Economics*, Vol. 110, 1127-1170.
- Jhingan, M. L. (2003). *The Economics of Development and Planning*. (36<sup>th</sup>. Revised ed.)

Vrinda Publication (P) LTD.

Khalesi, A. (2001). The Study of Affect of Inequality between Supply and Demand of Expert Manpower on the Future Supply and Demand of that. The Institute of Research and Programming in Higher Education, Research Paper 23.

Komeijani, A. & Memarnejad, A. (2004). Importance of Quality of Manpower and R&D in Economic Growth of Iran. *Journal of Commercial Research*, Vol. 31, 1-31.

Laroche, M., Merette, M., & Ruggeri, G. C. (1999). On the Concept and Dimensions of Human Capital in a Knowledge-Based Economy Context. *Canadian public policy- Analysed politiques*, vol, XXV, no.1 – 1999.

Levine, R. & Renelt, D. (1992). A Sensitivity Analysis of Cross-Country Growth Regressions. *American Economic Review*, Vol. 82(4), 942-963.

Lucas, R. E. Jr. (1988). On the mechanics of Economic Development. *Journal of Monetary Economics*, Vol. 22(1), 3-42.

Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A Contribution to the Empirics of Economic Growth. *Quarterly Journal of Economics*, Vol. 107, 407-437.

Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution. *Journal of Political Economy*, Vol. 66(4), 281-302.

Mincer, J. (1962). On-the-Job Training: Costs, Returns, and Some Implications. *Journal of Political Economy*, Vol. 70(5, part 2, Supplement), 50-79.

Mincer, J. (1974). *Schooling, Experince, and Earnings*. New York: National Bureau of Economic Research.

Naderi, A. (2003). Human Capital and Economic Growth: From Theory to Reality. *Quarterly Journal of Plan and development*, Vol. 3-4 (2003), 52-73.

Pritchett, L. (1999). *Where Has All the Education Gone?*. The World Bank, Washington D.C.

Romer, P. M. (1986). Increasing Returns and long-Run Growth. *Journal of Political Economy*, Vol. 94(5), 1002-1037.

Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, Vol. 51(1), 1-17.

Schultz, T. W. (1962). Reflexions on Investment in Man. *Journal of Political Economy*, Vol. 70(5, part 2, Supplement), 1-8.

Sohrabi, H. (2001). Determination on Supplying of the Expert Manpower in Iran. The Institute of Research and Programming in Higher Education, Research Paper 35.

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Temple, J. (1999). A Positive Effect of Human Capital on Growth. *Economic Letters*, Vol. 65, 131-134.

Vahidi, P. (2001). The Comparative Study in Job Market Policies in Third Development Program in Iran. The Institute of Research and Programming in Higher Education, Research Paper 5.